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DEPARTMENT OF THE INTERIOR AND RELATED AGENCIES APPROPRIATIONS FOR 1964

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS HOUSE OF REPRESENTATIVES

EIGHTY-EIGHTH CONGRESS
FIRST SESSION

SUBCOMMITTEE ON DEPARTMENT OF THE INTERIOR AND
RELATED AGENCIES

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DEPARTMENT OF THE INTERIOR

(except Bonneville Power Administration, Bureau of Reclamation, Southeastern Power Administration, and Southwestern Power Administration)

RELATED AGENCIES

(including Forest Service)

Printed for the use of the Committee on Appropriations



THURSDAY, FEBRUARY 7, 1963.

SMITHSONIAN INSTITUTION

WITNESSES

DR. LEONARD CARMICHAEL, SECRETARY
JAMES BRADLEY, ASSISTANT SECRETARY
MISS MARIA M. HOEMANN, BUDGET OFFICER

Mr. KIRWAN. We now have with us from the Smithsonian Institution, Dr. Leonard Carmichael, secretary; Mr. James Bradley, assistant secretary; and Miss Maria M. Hoemann, budget officer.

Do you have a statement, Doctor?

Dr. CARMICHAEL. I do, Mr. Chairman.

Mr. KIRWAN. Please proceed.

GENERAL STATEMENT

Dr. CARMICHAEL. Mr. Chairman, members of the committee, thank you very much for this opportunity to appear before you.

FUNCTIONS

With your permission, I would like to give a brief review of the functions of the Institution. The Smithsonian Institution was founded by an act of Congress in 1846 for "the increase and diffusion of knowledge among men." Today, Smithsonian's original purpose is accomplished in a number of ways, one of which is through the conduct of research. From its earliest days, the Smithsonian has played an important role in American scientific progress. The Smithsonian probably had the first general group of scientific research workers in America. The Institution helped to stimulate such new applied sciences as meteorology, aeronautics, and rocketry. At the present time, the Smithsonian activity supports and encourages research activities by its staff and by visiting scientists, technologists, and historians who use its collections and facilities. And we have many hundreds of them every year. It also conducts research in cooperation with other Federal and non-Federal institutions. For example, since its founding in 1846, the Smithsonian Institution has sponsored or conducted over 2,000 scientific expeditions throughout the world.

The Smithsonian Institution administers the largest museum complex in the world, comprising three museums of science, technology, and history; three art galleries; and the National Zoological Park. It preserves and protects for our citizens many of the irreplaceable treasures of the American people. All of us who work at the Smithsonian feel that the many excellent and much improved exhibits made possible, Mr. Chairman, by your committee in recent years are largely responsible for the continuing increase in the number of visitors who come to the Smithsonian buildings. In fiscal year 1962, over 8,923,000 visitors came to view the exhibits. This is an amazing increase of more than 1,820,000 over the previous year.

In addition to its scientific work and its museums, the Smithsonian accomplishes its basic purpose to increase and to diffuse knowledge by its publications and through a great volume of correspondence.

Scientists, technologists, and historians the world over recognize the importance of Smithsonian publications. Each year the staff of the Institution answers thousands of questions in the fields of science, technology, history, and art by letter, consultation, and by personal examination of objects or collections. During the past year approximately 395,000 such requests were answered. This is an increase of 73,000 over the number answered in fiscal year 1961.

MANPOWER UTILIZATION

Following the direction of this committee to agency heads, we have made a detailed study of personnel requirements and the progress that has been made in providing a more effective utilization of our personnel. We have, we think, improved our productivity as measured objectively. For example: if we use the number of visitors to the Institution or the number of technical letters answered, our increase of production is greater than our increase in personnel. A specific example may make this clear. In fiscal year 1962 we handled an increase in visitors of approximately 25 percent over fiscal year 1961 with but a 7 percent increase in staff. Duplicate files have been eliminated. Our ordering has been made more efficient by centralization. We have developed time and money saving on-the-job training for our exhibits staff. We have increased the efficiency of our guard force.

We do, however, have new buildings that must be staffed, and we have world-famous ongoing research which all scientists everywhere consider as a responsibility of the Smithsonian Institution, and thus we must ask this year for the personnel increases indicated in the papers before you.

CONSTRUCTION PROGRAMS

With your permission, I would like first to report on the Institution's construction programs since these programs affect certain items in the "Salaries and expenses" estimate.

I am pleased to report that during fiscal year 1963 the east wing of the Natural History Building will be completed. These enlarged, improved quarters will soon be in full use and the west wing will be under construction.

Progress is continuing on the Museum of History and Technology. The completion date is expected to be April 15, 1963, but informal indication is that this may be delayed by some months. The official date we have from the General Services Administration, the agency constructing the building, is April 15, 1963.

Planning for remodeling the Civil Service Commission Building to house the National Collection of Fine Arts and the National Portrait Gallery was begun in fiscal year 1962. Our request for remodeling funds is resubmitted for fiscal year 1964, as suggested by action of this subcommittee at the time of the 1963 appropriation hearing. The Civil Service Commission Building will be transferred to the Smithsonian Institution early in 1964 when the staff of the Commission moves to its new building, estimated to be completed in September 1963. The revised estimate for remodeling funds is \$6,465,000. Continuous studies during the intervening months disclosed that the old roof of this historic building must be replaced and that additional

repairs and facilities for handling visitors are required. These items are included in the appropriation request that is before you.

Funds in the amount of \$1,736,000 are requested for fiscal year 1964 to continue the program of constructing, remodeling, and equipping the buildings and other exhibits facilities at the National Zoological Park. This program, as the committee will remember, is planned to be accomplished over a period of years so that the National Zoological Park may be continued in daily operation without general disruption and inconvenience to the millions of visitors who come to the zoo from every State in the Union. The first phase of the program is being started with \$1,275,000 appropriated for fiscal year 1963.

The estimates before you also include \$511,000 for preliminary planning for a National Air Museum Building to carry out the terms of the act of September 6, 1958. This act directed the Smithsonian to prepare plans and specifications for a suitable building for a National Air Museum and designated a site on the Mall for this purpose. It may be noted that in planning this building special attention will be given to the provision of parking facilities.

The small, corrugated iron, temporary building that now houses a very small fraction of our aviation and space science collections is totally inadequate in both floor area and construction. On many days, guards must form lines of visitors as they try to crowd into this tiny building to see the world's greatest objects in this peculiarly American field. A total of almost 2 million visitors came to this small, inadequate building last year.

We most urgently hope that this request may be approved so that preliminary planning of the Air and Space Museum can be started in fiscal year 1964.

SALARIES AND EXPENSES INCREASES

May I now turn to discuss important features of our "Salaries and expenses" request. Our appropriation request of \$13,324,000 for 1964 represents an increase of \$2,484,000 over the adjusted appropriation for 1963.

Of this increase, funds totaling \$531,000 are to pay for the cost of the Federal Salary Reform Act of 1962. It was determined, after a careful review of all operations of the Institution, that no net savings could be effected to apply against the cost of the act because we must provide the required staff, both professional and custodial, for the new Museum of History and Technology and the new addition to the Natural History Museum.

An increase of \$749,000 is requested for the Museum of History and Technology. The major portion of the increase is for the nonrecurring cost of providing certain initial services, furnishings, and equipment for the new building. These items of expense are included in the Smithsonian's operating budget at the suggestion of the Joint Committee on Construction of a Building for a Museum of History and Technology, a joint committee of the House and Senate.

We are also requesting additional funds for the research programs of the Smithsonian. An increase of \$142,000 is requested for additional staff and services for the Astrophysical Observatory to advance its comprehensive program in the field of astrophysics. The request before you includes \$211,000 additional for the Museum of Natural

History for the conduct of research in areas heretofore neglected but for which there is great demand, and for oceanographic research. In connection with the latter program, it is planned to establish a scientific sorting center to receive, process, and label materials from the many new and important federally financed marine expeditions.

The Buildings Management Department of the Smithsonian which is responsible for providing building services, including maintenance, operation, and protection to all our buildings, will require an increase of \$594,000. These funds will permit the employment in our new buildings of absolutely essential guards, laborers, and mechanics and will pay for required utilities and other contractual services, cleaning, and building supplies and equipment in those new structures.

An increase of \$86,000 is required to meet the demands for general administrative services associated with the completion and occupancy of the Museum of History and Technology and the east wing of the Natural History Building.

Mr. Chairman, this completes my summary statement. I thank you for the opportunity to discuss the Smithsonian Institution's programs before the committee. We will be very glad, of course, to try to answer any questions that you may wish to ask. Thank you.

Mr. KIRWAN. Thank you, Doctor.

SALARIES AND EXPENSES

Object classification

[In thousands of dollars]

	1962 actual	1963 estimate	1964 estimate
SMITHSONIAN INSTITUTION			
11 Personnel compensation:			
Permanent positions.....	5,478	7,029	7,967
Positions other than permanent.....	83	93	99
Other personnel compensation.....	48	51	122
Total personnel compensation.....	5,609	7,173	8,188
12 Personnel benefits.....	409	515	598
21 Travel and transportation of persons.....	83	126	141
22 Transportation of things.....	84	86	100
23 Rent, communications, and utilities.....	321	481	641
24 Printing and reproduction.....	242	253	263
25 Other services.....	415	591	878
26 Supplies and materials.....	360	455	557
31 Equipment.....	779	760	1,568
Total, Smithsonian Institution.....	8,302	10,440	12,934
ALLOCATION TO GENERAL SERVICES ADMINISTRATION			
24 Printing and reproduction.....	2	2	2
25 Other services.....	76	60	58
32 Lands and structures.....	254	511	286
Total, General Services Administration.....	332	573	346
Total costs.....	8,634	11,013	13,280
Change in selected resources.....	218	—4	44
Total obligations.....	8,852	11,009	13,324

Personnel summary

	1962 actual	1963 estimate	1964 estimate
Total number of permanent positions.....	1, 110	1, 292	1, 375
Full-time equivalent of other positions.....	18	18	20
Average number of all employees.....	957	1, 182	1, 276
Number of employees at end of year.....	1, 108	1, 322	1, 405
Average GS grade.....	7.1	7.2	7.3
Average GS salary.....	\$6, 341	\$6, 764	\$6, 876
Average salary of ungraded positions.....	\$4, 892	\$4, 849	\$4, 862

A total of \$13,324,000 is requested for "Salaries and expenses," an increase of \$2,484,000. This consists of \$605,000 for Pay Act costs and \$1,879,000 for program.

GENERAL STATEMENT

We shall insert pages 1 through 13.
(The pages follow:)

GENERAL STATEMENT

The Smithsonian Institution was created by act of Congress, approved August 10, 1846, "for the increase and diffusion of knowledge among men." The Smithsonian Institution administers the largest museum complex in the world, comprising three museums of science, history, and technology; three art galleries; and the National Zoological Park. Good progress has been made in the program to renovate all exhibits now displayed in existing Smithsonian buildings. Since the inception of this program 8 years ago, 25 halls have been renovated and opened to the public. Additional halls will be opened by the end of fiscal year 1963—the second North American Archeology Hall, Dinosaur Hall, and Ocean Life Hall. The improved exhibits are largely responsible for the increase in the number of visitors who come to the Institution. In fiscal year 1962, there were 8,923,131 visitors to the Smithsonian buildings, excluding the National Gallery of Art and the National Zoological Park. This was an increase of 1,820,000 over the previous year.

In addition to the materials exhibited publicly, the Institution possesses far larger collections of specimens, documents, and related study materials for the use of the staff and visiting specialists. These collections are of outstanding importance in the fields of biology, geology, anthropology, American history, aeronautics, technology, and art. The Smithsonian actively supports and encourages research activities by its staff and by other scientists, technologists, and historians who use its collections and facilities. By investigations in a wide range of fields, the Smithsonian has continued to contribute to American scientific progress.

The Institution effectively diffuses knowledge through research publications, popular publications, museum activities, lectures, international exchange of scientific documents, and a voluminous correspondence. The Smithsonian's publications are known worldwide, and the "exchange publications" that come without charge to the Smithsonian from scientific research organizations all over the world play an important role in maintaining in America a complete library of scientific research. Such a collection is basic in modern American life, not only in national defense but also in the development of the cultural and industrial life in the country. During the past year, the staff of the Institution answered approximately 395,000 requests for information in the fields of science, technology, history, and art. This is an increase of 73,000 over the number of requests answered in fiscal year 1961.

During fiscal year 1963, the east wing of the Natural History Building will be completed and some of the scientific staff moved into enlarged, improved quarters. Progress is continuing on the construction of the Museum of History and Technology, which is expected to be completed in March 1963. Planning was begun in 1962 for remodeling the Civil Service Commission Building to house the National Collection of Fine Arts and the National Portrait Gallery. The work of renovation is proposed to start in fiscal year 1964. The program for improvements at the National Zoological Park will continue in 1963 and 1964.

Construction of the west wing of the Natural History Building will be started in fiscal year 1963. The Institution proposes to initiate planning of the National Air Museum Building in fiscal year 1964.

Leadoff tabular statement

	<i>Amount</i>
Appropriation Act, 1963-----	\$10,900,000
1963 rent item transferred to General Services Administration-----	-60,000
Base for 1964-----	10,840,000
Budget estimate, 1964-----	13,324,000
Increase, 1964-----	2,484,000

Summary of increases

	1963 estimate	1964 estimate	Increase	
			Pay Act and other personnel costs	Program
1. Museum exhibitions (including art):				
Museum of History and Technology-----	\$2,284,000	\$3,170,000	\$137,000	* 1 \$749,000
Museum of Natural History-----	804,000	854,000	50,000	-----
National Air Museum-----	234,000	266,000	13,000	2 19,000
National Armed Forces Museum Advisory Board-----	53,000	55,000	2,000	-----
National Collection of Fine Arts-----	131,000	150,000	13,000	3 6,000
National Portrait Gallery-----	39,000	41,000	2,000	-----
Total, museum exhibitions (including art)-----	3,545,000	4,536,000	217,000	774,000
2. Scientific research and exchange of scientific information:				
Astrophysical Observatory-----	801,000	1,003,000	60,000	4 142,000
Bureau of American Ethnology-----	100,000	136,000	13,000	5 23,000
Canal Zone Biological Area-----	68,000	119,000	2,000	6 49,000
International Exchange Service-----	105,000	109,000	4,000	-----
Museum of Natural History-----	1,144,000	1,455,000	100,000	7 211,000
Museum of History and Technology-----	627,000	677,000	50,000	-----
Total, scientific research and exchange of scientific information-----	2,845,000	3,499,000	229,000	425,000
3. Buildings Management Department:				
Museum of History and Technology Bldg-----	523,000	826,000	15,000	8 288,000
Natural History Bldg-----	1,164,000	1,502,000	32,000	9 306,000
Smithsonian Bldg-----	270,000	281,000	11,000	-----
Arts and Industries Bldg-----	407,000	411,000	4,000	-----
All other buildings-----	542,000	555,000	13,000	-----
Total, Buildings Management Department-----	2,906,000	3,575,000	75,000	594,000
4. General administration:				
Management-----	316,000	347,000	21,000	9 10,000
Administrative services-----	1,228,000	1,367,000	63,000	9 76,000
Total, general administration-----	1,544,000	1,714,000	84,000	86,000
Grand total-----	10,840,000	13,324,000	10 605,000	1,879,000

* Footnote references refer to the following numbered paragraphs under "Justifications," below.

JUSTIFICATIONS

(1) *Need for increase.*—The increase of \$749,000 for the Museum of History and Technology would be used to continue the preparation, moving, and installation of exhibits, collections, and museum furnishings in the new building.

The major portion of the increase would be used for nonrecurring cost of providing certain initial services, furnishings, and equipment for the new building. It was originally proposed that these items of expense be financed from the construction appropriation, but the Joint Committee on Construction of a Building for a Museum of History and Technology directed that these funds

should be requested under the Smithsonian's operating budget. The balance of the increase would be used for the Museum's shipping function.

Plan of work.—To provide for moving and rigging services; office furniture, interior benches and furnishings; equipment to maintain and operate the building; equipment and furnishings for the Library; and exhibition cases; and for the employment of one shipping clerk; personnel benefits; and transportation costs.

(2) *Need for increase.*—The increase of \$19,000 for the National Air Museum would be used to further its program of restoring and preserving historical aircraft, engines, and accessories. This program must be continued at a steady rate so that many specimens will be ready for exhibition when the new building is completed.

Plan of work.—To provide for one museum specialist and one aircraft mechanic; personnel benefits; contractual services; supplies; and equipment.

(3) *Need for increase.*—The increase of \$6,000 for the National Collection of Fine Arts would be used for preparing its valuable works of art for display in enlarged and improved quarters of the remodeled Civil Service Commission Building.

Plan of work.—To provide for contractual services to restore paintings and sculptures.

(4) *Need for increase.*—The increase of \$142,000 would be used for the broad and diversified program of the Astrophysical Observatory. This program includes solar radiation and astrophysics, the upper atmosphere, meteors, meteorites, artificial satellites, and problems of space science. Additional staff and services are required to design specialized equipment and conduct field testing; detect stellar and solar radiation image registration other than photographic; direct research on an ultraviolet survey of the sky and spectroscopic studies of selected celestial objects; conduct research on meteorites with electron probe analyses and make mineralogical analyses; analyze meteorites for stable isotopes; assist with the meteorite program by predicting the location of falls by precision tracking methods, study techniques for focusing X-rays; and develop equipment for gamma ray and radio meteor detection.

Plan of work.—To provide for two physicists, two astrophysicists, two astronomers, and one physical science technician; personnel benefits; travel; rents; contractual services for computer services; and equipment.

(5) *Need for increase.*—The increase of \$23,000 for the Bureau of American Ethnology would be used to further scientific work in Indian ethnology. Specifically, archeological-ethnological investigations should be made in the lower Missouri-Mississippi Valley area, the South, and the Southeast before the archeological sites are destroyed by numerous construction activities. Studies should also be made of the documents and other material pertaining to the Indians who lived or may still be living in the same localities. Ethnological research of the Indians of the Western Plains, the Basin Plateau, and the Northwest Pacific coast is necessary to bridge the gap between findings of archeologists and historians in tracing the more than 20,000 years of man's occupation in these areas. There is still much to be learned; and it is important to make these studies while the elderly Indian informants can be consulted, and before the old beliefs, customs, and traditions completely disappear.

Plan of work.—To provide for two anthropologists; personnel benefits; travel; and equipment.

(6) *Need for increase.*—The increase of \$49,000 for the Canal Zone Biological Area would be used to conduct more research in the tropics and thus increase the understanding of many important and fundamental biological processes. Areas which should receive concentrated study are evolution, ecology, and behavior. It will also be necessary to pay a standby differential to employees in the Canal Zone Biological Area to comply with the provisions of Public Law 87-581, approved August 13, 1962.

Plan of work.—To provide for two biologists, two guards, and one technical assistant; personnel benefits; travel; transportation costs; supplies and equipment.

(7) *Need for increase.*—The increase of \$211,000 for the Museum of Natural History would be used to employ the necessary staff so that research can be conducted in areas heretofore neglected and for the oceanographic program.

The expansion of the museum activities into the facilities of the east wing of the Natural History Building will make it possible for the Smithsonian Institution to promote its leadership in natural history. Specialists are required in the following natural history fields: plant morphology and taxonomy; pale-

ontology, with special reference to the development of mammals: avian zoology, a field of increasing significance in understanding vertebrate evolution and adaptation; reptilian systematics; and insect taxonomy.

In fiscal year 1964 a sorting center will be established to further oceanographic work in the Institution. This sorting center will receive, process, and label materials from federally financed marine expeditions; sort the specimens into manageable taxonomic groups, and have them studied and identified by specialists either at the Smithsonian or outside. Specialists will also provide identifications of marine organisms to other scientists, prepare monographs of critical biological groups, and inform colleagues in Federal agencies and in universities of the distributional and ecological patterns of important marine plants and animals.

Plan of work.—To provide for 1 botanist; 1 geologist; 3 zoologists; 15 sub-professional aids; 2 clerical assistants; personnel benefits; travel; transportation costs; contractual services; supplies; and equipment.

(8) *Need for increase.*—The increase of \$594,000 for the Buildings Management Department would be used to provide buildings services, including maintenance, operation, and protection, for the Museum of History and Technology Building and the East Wing of the Natural History Building. The staff of the Buildings Management Department will have increasing demands made on them as the construction of these buildings progresses and is completed.

Employees of the Buildings Management Department will assist in moving staff, laboratory equipment, and reference collections to the Museum of History and Technology. Moving operations will begin in the current fiscal year and will continue in fiscal year 1964.

Additional cleaning and maintenance services will be required when the East Wing, with its expanded research facilities, is completed and occupied.

Plan of work.—To employ guards, laborers, and mechanics at the time their services are required (net increase of 46 man-years); to provide for personnel benefits; electricity (including air conditioning), steam and gas, and communications; contractual services for emergency repair and inspection of elevators and escalators; protective services for the East Wing; purchase of cleaning and building supplies; and for replacement of obsolete equipment and purchasing additional equipment for the enlarged shops.

(9) *Need for increase.*—An increase of \$86,000 for General Administration would be used to meet the increased demands for administrative and general services associated with the completion and occupancy of the Museum of History and Technology Building and the East Wing of the Natural History Building. An increase is anticipated in the volume of correspondence and in library services. The Smithsonian Museum Service will expand its activities so that the exhibits will prove more educational and meaningful.

Plan of work.—To provide for a planning officer, two clerical assistants, three library assistants, and one editor; personnel benefits; travel; printing and reproduction; installation of equipment in the Natural History Building to assist in docent services; miscellaneous supplies and materials; and books and equipment.

(10) *Need for increase.*—The increase of \$605,000 for Pay Act and other personnel costs would be used (a) to carry out the provisions of the Federal Salary Reform Act of 1962, Public Law 87-793, approved October 11, 1962, (\$531,000); (b) for 2 days pay above 52-week base (\$70,000); and (c) for reimbursement for total benefits and other payments made from the Employees Compensation Fund during fiscal year 1962 (\$4,000).

All operations of the Smithsonian Institution have been carefully reviewed to determine whether any absorption of the \$531,000 required for salary reform costs in fiscal year 1964 is possible. No savings can be effected without seriously curtailing the daily operations of the Institution and impairing such authorized programs as staffing and servicing the east wing of the Natural History Building and the new Museum of History and Technology.

For fiscal year 1963, it was determined that \$89,525 could be absorbed for salary reform costs; \$40,000 for wage board pay increases; and \$3,000 for postal rate increases. This absorption is possible due to the lag in filling scientific and curatorial positions, and those related to the delayed opening of the Museum of History and Technology Building.

MUSEUM OF NATURAL HISTORY

Mr. KIRWAN. Briefly highlight the need of the increase of \$211,000 for research by the Museum of Natural History.

Dr. CARMICHAEL. Yes, Mr. Chairman.

The Museum of Natural History, like other great museums of this kind both here and abroad, is not only a place for public instruction through exhibitions but it is a great research organization. The British museum and comparable museums in France and Germany, and certainly in Russia, all have great staffs for research. Our Museum of Natural History is concerned with the fields of anthropology, geology, biology, and related sciences. We do research that is recognized throughout the world. We are concerned with great collections of so-called type specimens and other examples of organisms and with basic materials. It is necessary for us to keep these collections in proper form and to provide scientific and laboratory facilities so that they will be available for study by scientists who come to us every year from universities from practically every State and from abroad.

This year we are asking for an increase of 1 botanist, 1 geologist, 3 zoologists, and 15 aids—the 15 aids to be mainly with the sorting center for oceanography. There has recently been a great increase in interest in oceanography. The Smithsonian Institution has been in this field for 80 years. If material that is collected and brought in from marine expeditions, and looks like green slime but is in fact composed of many types of organisms, is to be studied and identified by specialists, it must be sorted and brought into laboratories so that it can be made available for scientific research. If the study is to be related to the ocean as a source of food supply, it must be recognized that these organisms are found not only in tropic waters but where the cold water and warm water come together.

The other agencies that are concerned primarily with collecting and bringing in these materials from the Indian Ocean and from all parts of the world need some continuing scientific reference base where a record of the things that are brought in can be maintained.

Sir, that is the basic reason that we feel we do need this additional scientific staff in this part of the Institution.

REMODELING OF CIVIL SERVICE COMMISSION BUILDING

Object classification

[In thousands of dollars]

	1962 actual	1963 estimate	1964 estimate
SMITHSONIAN INSTITUTION			
11 Personnel compensation: Positions other than permanent.....		20	
12 Personnel benefits.....		1	
21 Travel and transportation of persons.....		2	
25 Other services.....		14	3
Total, Smithsonian Institution.....		37	3
ALLOCATION TO GENERAL SERVICES ADMINISTRATION			
21 Travel and transportation of persons.....		1	1
24 Printing and reproduction.....		6	
25 Other services.....	58	266	177
31 Equipment.....			60
32 Lands and structures.....			3,432
Total, General Services Administration.....	58	273	3,670
Total costs.....	58	310	3,673
Change in selected resources.....	229	-197	2,425
Total obligations.....	287	113	6,098

Personnel summary

	1962 actual	1963 estimate	1964 estimate
SMITHSONIAN INSTITUTION			
Average number of all employees.....		3	
Number of employees at end of year.....		5	
Average GS grade.....		9.0	
Average GS salary.....		\$6,667	

Mr. KIRWAN. \$6,465,000 is requested for "Remodeling of the Civil Service Commission Building."

We shall insert pages 14 and 15 of the justifications in the record.
(The pages follow:)

Remodeling of Civil Service Commission Building

Appropriated, fiscal year 1962 (planning).....	\$400,000
Appropriated, fiscal year 1963.....	0
Estimate, 1964.....	6,465,000

Funds in the amount of \$6,465,000 are requested for fiscal year 1964 for remodeling the Civil Service Commission Building to make it suitable to house the National Collection of Fine Arts and the National Portrait Gallery. These funds will be required when the building is transferred to the Smithsonian Institution in accordance with the act of March 28, 1958 (72 Stat. 68).

The estimate of \$6,465,000 is based on the following:

Estimate of remodeling costs (including planning) prepared by the Public Buildings Service, General Services Administration, fiscal year 1964

Design and specifications-----	\$330, 000
Surveys, etc-----	29, 000
Supervision-----	175, 000
Office expenses, Public Buildings Service-----	14, 000
Improvements-----	6, 277, 000
Smithsonian Institution-----	40, 000
Total-----	6, 865, 000
Less planning funds appropriated, fiscal year 1962-----	-400, 000
1964 estimate-----	6, 465, 000

The work of remodeling the building consists of making necessary structural changes and renovations for a new roof, including replacement of wood framing and the rain-leader system; calking and pointing stonework; cleaning the entire building; replacing the electric system; installing air conditioning and necessary humidity controls; removing partitions and walls, plastering and painting; re-grinding or replacing existing floors; and such other work as is required to provide appropriate exhibit facilities.

This estimate for remodeling the Civil Service Commission Building is submitted in accordance with action of the House Appropriations Committee when it reported on the Interior Appropriation bill for 1963 as follows:

"The committee has deleted without prejudice the budget request of \$5,400,000 for remodeling the existing Civil Service Commission Building (formerly known as the Patent Office Building) to make it suitable as an Art Gallery to house the National Collection of Fine Arts and the National Portrait Gallery of the Smithsonian Institution. Since preparation of the budget estimate delays have been encountered in the construction of the new building to house the Civil Service Commission, and the present building will not be vacated prior to August 1963, construction funds to initiate the remodeling will, therefore, not be required before fiscal year 1964."

The estimate of remodeling costs for fiscal year 1964 is \$1,065,000 greater than the amount submitted for fiscal year 1963, because in the intervening months continuous studies have disclosed that the old roof of the building and the rain-leader system must be replaced and that additional repairs and facilities for handling visitors are required.

The architects have completed their 50 percent submission on the working drawings to the General Services Administration and it is expected that working drawings and specifications will be completed in May 1963. The work of renovation of the existing Civil Service Commission Building is proposed to be started in fiscal year 1964.

DESCRIPTION

Mr. KIRWAN. Please describe for the record what will be involved in remodeling this building.

Dr. CARMICHAEL. Mr. Chairman, this building is a historic building. I am not sure all members of the committee know the building. It occupies two city blocks. The first part was built by Mills, one of the great architects of the early history of our country. Important architectural historians have said that other than the Treasury Building it is the most beautiful building of that period in this city.

At one time it was proposed to tear the building down and make the space into a parking lot. Your committee and other committees of Congress decided it should be used for the National Collection of Fine Arts and the National Portrait Gallery of the Smithsonian Institution—the former has been supported by the Congress certainly for over 20 years. This is a great building and it will be wonderful for

its new uses but it has been neglected for many years. It has been used as an office building, most recently by the Civil Service Commission, but it was first built for the Patent Office. I have looked into the records and in the early days the Patent Office had a great museum. When people came to Washington in the 1840's they first of all wanted to see the patent models in the Patent Office.

So this building, constructed in part for exhibits, adapts itself very well for the purpose we have in mind and it will be a great museum building. If you had to build it de novo it is estimated it would cost \$25 million. So I feel we will preserve a great historic monument and have a great building at a low cost.

We have had the necessary planning funds and we are asking for the funds needed for remodeling it for its new use.

Mr. KIRWAN. Are the plans and specifications far enough along so that you are assured that this is a good estimate of the remodeling costs?

Dr. CARMICHAEL. We are sure, sir.

CONSTRUCTION AND IMPROVEMENTS, NATIONAL ZOOLOGICAL PARK

Object classification

[In thousands of dollars]

	1962 actual	1963 estimate	1964 estimate
SMITHSONIAN INSTITUTION			
21 Travel and transportation of persons.....		3	
25 Other services.....		7	
Total, Smithsonian Institution.....		10	
ALLOCATION TO DISTRICT OF COLUMBIA			
25 Other services.....		180	195
32 Lands and structures.....		1,085	1,541
Total, District of Columbia.....		1,265	1,736
Total costs—obligations.....		1,275	1,736

Mr. KIRWAN. We shall insert pages 16 through 21.
(The pages follow:)

Construction and improvements, National Zoological Park

Appropriated, fiscal year 1963-----	\$1,275,000
Estimate, fiscal year 1964-----	1,736,000

The increases for fiscal year 1964 would be used as follows:

Planning:

Detailed plans and designs for fiscal year 1965 projects-----	150,000
Advance planning and consultation for fiscal year 1966 projects--	45,000

Total-----	195,000
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Construction:**Exhibits:**

Connecticut Avenue pedestrian entrance-----	190,000
Hoofed stock-----	345,000
Deer-----	118,000
Penguins and marine birds-----	120,000

Total-----	773,000
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Other areas, service-----	252,000
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Parking:

Parking Lot A-----	307,000
Parking Lot B-----	24,000

Total-----	331,000
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Service roadway systems-----	14,000
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Utilities-----	171,000
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Total construction-----	1,541,000
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Total-----	1,736,000
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Planning, \$195,000

Detailed plans and designs for fiscal year 1965, \$150,000.—During fiscal year 1964 detailed plans will be made for the construction of exhibit facilities for one group of hoofed stock in fiscal year 1965. This dual-purpose exhibit area consists of a temperature-controlled building and paddock complex. The hoofed stock from tropical areas will be exhibited inside the building during the winter. At the same time in the outside paddock, with minimum shelter, hoofed stock from cold areas will be exhibited. During the summer heat, the animals will be reversed. Thus the temperature requirements of two diametrically opposed sets of animals will be met and the building will be used by visitors all year round.

Detailed plans will be worked out in fiscal year 1964 so that construction of the commissary, the animal hospital and quarantine, and research facilities may be completed in fiscal year 1965. In addition, detailed plans will be made for the vehicular roadway for visitor distribution, for 4 parking lots to accommodate buses and a total of approximately 650 cars, for expansion of the service roadway system to provide for the internal servicing of the new and the contemplated exhibit areas, and for necessary expansion of the utility system.

Advance planning and consultation for fiscal year 1966, \$45,000.—Advance plans will also be made in fiscal year 1964 for projects to be undertaken in fiscal year 1966. This planning will provide a more positive basis for determining the best design and the estimated cost of the subsequent year's construction.

One such project is a multiclimatic house to exhibit those birds, mammals, and reptiles requiring special exhibition techniques. This building will house the nocturnal animals, which will be active and visible by means of reversed day and night, made possible by using red illumination during the hours of sunlight; the burrowing animals with sections cut away to show their dens; the flying squirrels and bats; certain insects; and the aquatic animals such as the platypus and beaver. The house will feature sectional scenes of rivers and river banks so that the exhibit will show the interrelationship of aquatic terrestrial and aerial animals.

Advance plans will also be made in fiscal year 1964 for the development of the aquatic mammal area for seals, sea lions, walruses, and the like. This will involve complete development of the present sea lions and seal area.

Construction, \$1,541,000

Exhibits, \$773,000.—Funds amounting to \$190,000 are requested to construct the principal pedestrian entrance to the Zoological Park off Connecticut Avenue. This section of the park will be regraded and beautified with appropriate shrubs, trees, natural stone walls, walkways, benches, and entrance gates, to form an attractive and dignified entrance to the National Zoological Park. This entrance will be flanked on either side by deer exhibits. As the visitor proceeds into the park he will approach an aquatic exhibit featuring an island inhabited by ringtail lemurs and aquatic birds. Behind the aquatic exhibit will be an orientation and information center with maps, instructions, and notices of current events at the Zoo. The information center will also serve visitors who have parked in nearby lots. From this point the visitors will disperse into four different exhibition areas.

The balance of the construction amount is required for animal exhibits in a 10-acre area where approximately 200 individual animals will be exhibited in compatible, breeding family groups. All conveniences and safety precautions will be provided to the public. This will include 3,800 feet of walkways with numerous benches at scenic points along the way.

The construction of the hoofed stock exhibits for animals from cold regions will cost \$345,000. Some of these exhibits will be behind water moats, dry moats, and some behind fences. The shelters for these animals will be subdued and of naturalistic construction, and will provide a minimum of heat. Public exhibition of the animals, such as American buffalo and zebra, will be in the open.

The cost of constructing the deer exhibits is \$118,000. They will be located in the area to the right of the present Connecticut Avenue entrance. This will include terracing; building rustic shelters; and providing water, sewerage, and drainage facilities, fences, sidewalks, and benches.

The sum of \$120,000 is required to construct the penguin and marine bird exhibit, which will include a variety of marine birds. There will be an enclosed glass-fronted penguin pool with an underwater viewing area for the strictly Antarctic species, and an open outdoor pool for the more hardy northerly species.

Service areas, \$252,000.—The first segment of a new service area will be constructed in fiscal year 1964. The area will include a new hay and grain storage building of fireproof construction requiring no heat; a new property yard; and new animal holding pens to replace those eliminated by the development of the new stock exhibition area. The property yard and the holding pens will be of simple construction, mainly of chain-link fencing and gates, with minimal shelter for the animals. An access road to the hay and grain storage building must also be provided.

Parking areas, \$331,000.—Two paved parking areas, to accommodate about 400 cars, will be constructed near the Connecticut Avenue vehicular entrance.

Service roadway systems, \$14,000.—Approximately 1,900 feet of the Zoo service roadway system will be graded and surfaced so that areas accommodating hoofed stock animals, deer, birds, moose, and elk can be serviced. This work should be done in fiscal year 1964 since the development of the Connecticut Avenue entrance and the relocation of the automotive roads will eliminate the present service system to these areas. It is contemplated to separate the Zoo service road to the exhibits buildings and areas from the pedestrian walkways.

Utilities, \$171,000.—It is estimated that \$171,000 will be needed for the installation of utilities in the hoofed stock area and for connections to and modifications of the already established systems, including necessary studies. The utilities comprise electricity, gas, heating, water supply, and sewerage.

ACCOMPLISHMENTS TO DATE

MR. KIRWAN. Briefly highlight what you are accomplishing with the \$1,275,000 available for the current year.

DR. CARMICHAEL. With the funds you gave us this year we are beginning the needed road construction of the Zoo. The Zoo was laid out by Olmstead, a well-known landscape architect and engineer, but he did this before there were many automobiles, so the main road ran through the middle of the Zoo. This has become a thoroughfare

and it is unsafe for our millions of visitors. The new plan calls for essentially a circumferential road that would take the automobiles to the parking lots but not force them to go through the center of the Zoo.

The money you gave us this year is for the reconstruction of the roadway, for the reconstruction of the birdhouse, and the development of a new great flight cage in which birds can live essentially normal lives. This will be a very great and important addition to the Zoo and we certainly thank the committee for allowing us to have these funds.

USE OF 1964 FUNDS

Mr. KIRWAN. \$1,736,000 is requested to continue with construction and improvements at the National Zoological Park. This is an increase of \$361,000 over the 1963 appropriation. What other buildings will you construct there?

Dr. CARMICHAEL. This will include the Connecticut Avenue pedestrian entrance; proper provision for the first time at the Zoo for hoofed animals; a deer paddock; and a place for penguins and marine birds. It will include parking lot A and parking lot B, an additional service roadway system, and it will also allow us to make detailed plans for the improvements that we will request for the following year.

TOTAL COST OF PROGRAM

Mr. KIRWAN. What is the total estimated cost of the 10-year capital improvement program at the zoo?

Dr. CARMICHAEL. \$17,145,530, sir.

Mr. KIRWAN. Please provide for the record a summary statement of the items covered under the 10-year development program and estimated costs.

Dr. CARMICHAEL. Yes, sir.

(The information requested follows:)

SMITHSONIAN INSTITUTION, NATIONAL ZOOLOGICAL PARK

10-Year Development Program

Roads	\$427, 760
Ongrade parking (1,200 cars)	671, 270
Trackless train (including equipment)	298, 510
Exhibit areas, shelters, and enclosures	8, 454, 020
Administration and cafeteria building	1, 849, 680
Service, hospital, etc.	1, 259, 490
Utility systems	1, 595, 580
Escalator	430, 000
Expansion of parking facilities to 2,232 cars	2, 159, 220

Total estimated cost, 10-year development program..... 17, 145, 530

DISTRICT OF COLUMBIA CONTRIBUTIONS

Mr. KIRWAN. Please also provide for the record the financial contribution that the District of Columbia will continue to make toward expenses at the Zoo.

Dr. CARMICHAEL. Yes, sir.

(The information requested follows:)

SMITHSONIAN INSTITUTION, NATIONAL ZOOLOGICAL PARK

*Appropriation for operation and maintenance carried in the District of Columbia
Appropriation Act*

Fiscal year 1963 appropriation.....	\$1, 470, 200
Anticipated supplemental for Pay Act costs.....	36, 628
Total, fiscal year 1963.....	1, 506, 828
Estimate of appropriation for fiscal year 1964.....	1, 637, 700

RESEARCH FACILITIES

Mr. KIRWAN. I note that planning funds are requested for the next fiscal year for research facilities to be constructed in 1965. Just what will these research facilities consist of?

Dr. CARMICHAEL. The research facilities are a minor part of the Zoo, but our Zoo is, after all, a national institution. We have discovered that there is a very great lack of understanding of the kind of food that should be given to wild animals and how diseases of Zoo animals can be controlled. It has been felt we should have a place on the second floor of the veterinary hospital where some clinical research can be done to increase our knowledge of keeping our animals alive and healthy. We hope we can continue to provide the kind of information to the rest of the country that we are called upon to furnish by having a proper place where this small research activity can be conducted.

NATIONAL AIR MUSEUM

Object classification

[In thousands of dollars]

	1962 actual	1963 estimate	1964 estimate
SMITHSONIAN INSTITUTION			
11 Personnel compensation: Positions other than permanent.....			10
21 Travel and transportation of persons.....			2
25 Other services.....			13
Total, Smithsonian Institution.....			25
ALLOCATION TO GENERAL SERVICES ADMINISTRATION			
21 Travel and transportation of persons.....			1
24 Printing and reproduction.....			2
25 Other services.....			468
Total, General Services Administration.....			471
Total costs.....			496
Change in selected resources.....			10
Total obligations.....			506

Personnel summary

	1962 actual	1963 estimate	1964 estimate
SMITHSONIAN INSTITUTION			
Average number of all employees.....			1
Number of employees at end of year.....			1
Average GS grade.....			12.0
Average GS salary.....			\$9, 475

Mr. KIRWAN. \$511,000 is requested to begin planning of the National Air Museum Building.

We shall insert pages 22 through 24.

(The pages follow :)

National Air Museum: Planning

Appropriated, fiscal year 1963-----	0
Estimate, fiscal year 1964 (design expenses)-----	\$511, 000

Funds in the amount of \$511,000 are required in fiscal year 1964 for preliminary planning for a National Air Museum Building, as follows :

Estimate prepared by Public Buildings Service, General Services Administration, fiscal year 1964

<i>Item</i>	
Drawings and specifications-----	\$460, 000
Duplication, bids, etc-----	18, 000
Staff office services-----	8, 000
Smithsonian Institution-----	25, 000
 Total for preliminary planning-----	 511, 000

The above amount is a part of \$1,640,000 required for preparation of preliminary plans, including drawings and specifications. The balance of \$1,129,000 will be required in fiscal year 1965 to complete the preparation of drawings and specifications.

Facilities for receiving an estimated 4 million visitors a year will be planned. Expert consultants will be employed by the Institution, as required, to assist the planning and museum staffs in matters of historical and technical interpretation of flight history, technological and scientific developments, and museum practices.

This building for the National Air Museum is being planned in accordance with the act of September 6, 1958 (72 Stat. 1794), which authorized and directed the Regents of the Smithsonian Institution "to prepare plans, including drawings and specifications, for the construction of a suitable building for a National Air Museum." The act designated that the location of the Air Museum would be bounded by Fourth Street SW., on the east, Seventh Street SW., on the west, Independence Avenue on the south, and Jefferson Drive on the north. Preparation of plans for this building are in accord with the President's desire for standby authority on public works as indicated in his 1963 budget message and the Public Works Acceleration Act, Public Law 87-658, dated September 14, 1962.

The act of August 12, 1946, establishing the Air Museum (Public Law 722, 79th Congress), stated that the National Air Museum "shall memorialize the national development of aviation: collect, preserve, and display aeronautical equipment of historical interest and significance; serve as a repository for scientific equipment and data pertaining to the development of aviation, and provide educational material for the historical study of aviation." The present make-shift areas available to the National Air Museum have severely limited the exhibition of the national air and space collections.

The National Air Museum has accumulated the world's largest and finest collection of historic air and spacecraft, engines, rockets, and other aeronautical and space materials significant in the history of manmade flight and space exploration. Included are the original Wright brothers' "Kitty Hawk" Flyer, original Goddard rockets, the "Spirit of St. Louis," and "Freedom 7."

Less than 10 percent of the collection is housed in a World War I hangar and in certain overhead areas of the Arts and Industries Building. The major portion of the collection is, of necessity, in storage because of inadequate display space. The collection is relatively inaccessible for view by the millions of Americans who visit Smithsonian each year. During last year the Smithsonian had to remove one of the five key exhibits in the World War I hangar to make room for the thousands of visitors—over 38,000 on 1 day. The great national interest in the Air and Space Museum is attested by a recordbreaking visitor load of nearly 1 million visitors in the 2 months of July and August 1962.

The proposed National Air Museum Building will be unique. This museum will be the first ever designed and constructed specifically for the exhibition of aeronautical and spacecraft material. To meet the needs of the collection now on hand as well as future accessions resulting from historical air and space-

flight developments, it is planned to have a structure of proper proportions and clearances for effective display of large objects, especially the famous "firsts" in aviation and space science. Such an inspiring exhibit in an appropriate and attractive building, opposite the National Gallery of Art in the Nation's Capital, cannot help but stimulate the interest of young men and women in aeronautical and space development.

DESCRIPTION AND COSTS

Mr. KIRWAN. Planning for this new National Air Museum was authorized by Congress in 1958. Briefly describe this proposed building and tell us the approximate cost.

Dr. CARMICHAEL. Mr. Chairman, this building was authorized by Congress—there are two acts of Congress basic to its establishment and location—and the site has been authorized by Congress. It is on the Mall opposite the National Gallery of Art; it balances the National Gallery of Art. The act said that the building should be one that would be appropriate for the great air and space collections of our Nation, which are the greatest in the world. Aviation is an American triumph. We did not invent the wheel but we did invent the "flying machine" and that is why aviation means so much to all Americans.

This building, which will be an appropriate one for its location, will show the collections that have been made through the years in a way that will be instructive and will give inspiration as well as knowledge to the millions of people who will come to it. I feel sure it is one of the improvements most needed at the present time. It has been supported by people not only who know about aviation but also by many people interested in the scientific and technological development of our country.

So, Mr. Chairman, we certainly hope it will be possible for you to make possible the planning of this great building.

You asked in your question how much it would cost. We cannot say for sure until the planning is complete. It will necessarily be a large and therefore an expensive building, but I can assure you it will be done as inexpensively as possible and still be appropriate for the site and to perform the public functions required of it.

PLANNING SCHEDULE AND COSTS

Mr. KIRWAN. What will be the total cost of the planning of this building?

Dr. CARMICHAEL. Mr. Chairman, our appropriation request now before you includes a request for \$511,000 for the preparation of preliminary plans. This is for the first year's planning only. The total required for plans is \$1,640,000. That would be for planning for 2 years.

Mr. KIRWAN. Would it speed up the project if we gave you that 2-year planning money this year?

Dr. CARMICHAEL. Mr. Chairman, I have to report that the Board of Regents of the Smithsonian Institution most respectfully requests this committee to appropriate the whole amount of \$1,640,000 for planning in 1964. We have been told the planning could be completed in 15 months rather than in a period of 2 years.

Mr. KIRWAN. If you could get the full allotment?

Dr. CARMICHAEL. Yes. The Board of Regents believes no money would be saved by deferring a part of the money until 1965. Furthermore, there is an advantage in planning the project as a whole because it would be a continuous project without danger of interruption. Also, it would speed the day when the building could be opened probably by three-quarters of a year, or by a whole year if we pushed hard. So, Mr. Chairman, I must say on behalf of the regents that I cannot too earnestly ask you to consider the possibility of making the entire appropriation available in 1964.

Mr. KIRWAN. I believe everyone on the Board of Regents—including the Vice President, Mr. Fleming, Mr. Brown of Rhode Island, Senator Anderson, Senator Saltonstall, Clarence Cannon, Frank Bow, the great scientists, and myself went on record as favoring that full planning funds be given this year.

Dr. CARMICHAEL. Yes, sir.

Mr. KIRWAN. I think there are enough people on this committee interested that we will be able to accomplish it.

It is my understanding that the present authorization covers planning only and that you would come back to Congress for construction authority after the plans are completed. Is that correct?

Dr. CARMICHAEL. That is correct.

OTHER PROGRAM DESCRIPTIONS AND SCHEDULES

Mr. KIRWAN. We shall insert pages 25 and 27 through 39. (The pages follows:)

Report on average employment by organizational unit

	1962 actual	1963 estimate	1964 estimate	Increase, 1964 over 1963
Astrophysical Observatory.....	36	54	61	7
Buildings Management Department.....	341	423	469	46
Bureau of American Ethnology.....	11	12	14	2
Canal Zone Biological Area.....	10	12	17	5
International Exchange Service.....	11	12	12	—
Management.....	20	23	24	1
Museum of History and Technology.....	276	318	320	2
Museum of Natural History.....	126	177	200	23
National Air Museum.....	26	26	28	2
National Armed Forces Museum Advisory Board.....	0	2	2	—
National Collection of Fine Arts.....	10	16	16	—
National Portrait Gallery.....	0	3	3	—
Other general services.....	90	104	110	6
Total.....	957	1,182	1,276	94

SCHEDULE OF RENOVATION OF EXHIBITS

No increase over the 1963 level is reflected in the amount required for renovation of exhibits.

In 1964 the Smithsonian will continue its program of revitalizing the exhibits in the U.S. National Museum. This program, which was begun in 1954, has continued at a steady rate with an average appropriation of \$476,800. The same amount that was appropriated in 1963, \$455,000, will be required in 1964.

A. Completed and opened to the public by end of 1962:

1. First ladies hall.
2. The first American Indian hall.
3. North American mammals hall.
4. Latin American archeology hall.
5. Bird hall.

6. American cultural history hall.
 7. Power machinery hall.
 8. The second American Indian hall.
 9. Health hall.
 10. Military history hall.
 11. Printing arts hall.
 12. Gems and minerals hall.
 13. Textiles hall (first floor).
 14. Jade room.
 15. World of mammals hall.
 16. Agriculture hall.
 17. Fossil fishes and amphibians hall.
 18. Textiles hall (second floor).
 19. Medicine, dentistry, and pharmacy hall.
 20. Fossil plants and invertebrates hall.
 21. The first North American archeology hall.
 22. Numismatics hall.
 23. Petroleum hall.
 24. Prehistoric mammals hall.
 25. Peoples of the Pacific hall.
- B. Halls to be completed and opened to the public by the end of 1963:
1. The second North American archeology hall.
 2. Dinosaur hall.
 3. Ocean life hall (partial).
- C. Construction partially completed by the end of 1963:
1. Peoples of Asia and Africa hall.
 2. Vertebrate anatomy hall.
 3. Reptiles and fishes hall.
- D. During 1963, drawings will be finished and contracts awarded for the following halls:
1. Physical anthropology hall.
 2. Old world archeology hall.
- E. Projects for 1964:
1. Economic geology hall.
 2. Physical geology hall.

RENOVATION OF EXHIBITS PROJECTS, FISCAL YEAR 1964

Economic geology hall

The movement of the geology reference collections to the new east wing of the Natural History Building in fiscal year 1963 will release Hall 19 for the development of a hall of economic geology.

Modernization of this hall will provide for an expansion of the exceedingly popular gem collection in the south end of this hall, for a permanent relocation of the present temporary installation of the Vetlesen collection of exquisitely carved jade, and for exhibits on ores, abrasives, and other geological materials useful to man. At its north end this hall appropriately adjoins the hall of physical geology and the hall of North American archeology. In the latter hall primitive methods of working stone receive considerable emphasis.

Physical geology hall

The movement of the geology work rooms and reference collections to the new east wing of the Natural History Building in fiscal year 1963 will release Hall 20 for the development of a hall of physical geology. Exhibits in this hall will interpret the nature and properties of materials composing the earth, the distribution of these materials throughout the world, the processes by which they are formed, altered, transported, and distorted, and the nature and development of the landscape.

In addition to selected specimens from the museum's extensive geological collections, dioramas, models, and murals will be employed to present effectively such subjects as geologic time, volcanoes, sculpture of the land by running water, weathering and soils, glaciers, oceans and shorelines, mountain building, earthquakes, the earth's interior, and meteorites. Special emphasis will be placed on the rock-forming minerals.

REHABILITATION PROJECTS, FISCAL YEAR 1964

No increase over the 1963 level is reflected in the amount required for the rehabilitation of buildings programs. Total estimate, 1964, \$200,000.

Museum of Natural History (1911)-----	\$42,000
1. Removal of old mortar, calking and pointing of stonework of north and south entrances; and preparation of surfaces and re- painting of exterior window frames, sash, doors, and trim-----	15,000
2. Painting and refinishing nine exhibition halls-----	27,000
Arts and Industries Building (1881)-----	20,000
1. Replacement of hot and cold water piping-----	10,000
2. Replacement of heating system piping and modification of steam distribution system-----	10,000
Smithsonian Building (1855)-----	40,000
1. Initial steps in renovation and preparation of plans for remodel- ing exhibition and service areas.	
Silver Hill facility (1952)-----	98,000
1. Modification of building No. 10-----	25,000
2. Build an additional storage building-----	73,000
Total, rehabilitation projects, fiscal year 1964-----	200,000

SMITHSONIAN INSTITUTION
SCHEDULE OF BUILDING PROJECTS
(Dates are Fiscal Years)

	1960	1961	1962	1963	1964	1965	1966	1967
Museum of History and Technology Building	Under construction. Appropriation received, \$36,000,000, 1956							
Additions to the Natural History Building	Appropriation received for planning 1958 \$800,000	Under construction Appropriation received \$13,500,000, 1961	Appropriation received \$4,336,000, 1962	Mar. 1963 East Wing				
Remodeling Civil Service Building (for Art Galleries)	Pre-planning studies	Planning Appropriation received \$400,000, 1962		Mar. 1963 East Wing	April 1965 West Wing			
National Air Museum Building Construction.	Pre-planning studies				Request re-modeling Appropriation \$6,465,000	Request additional planning Appropriation \$1,129,000,	Scheduled to be under construction Request Construction Appropriation \$37,860,000	
Construction & Improvements, National Zoological Park			Planning included in DC Appropriation \$85,000, 1962	Appropriation received \$1,275,000, 1963	Request planning Appropriation \$511,000, 1964	Request additional planning Appropriation \$1,736,000, 1964	Construction and Improvements scheduled to be in progress. Request appropriations of various amounts.	

*Civil Service Commission Building: Comparative estimate of remodeling costs
(including planning)*

	Budget request, fiscal year 1963	GSA estimate, fiscal year 1964
Design and specifications.....	\$330,000	\$330,000
Surveys, etc.....	29,000	29,000
Supervision.....	175,000	175,000
Office expenses, Public Buildings Service.....	14,000	14,000
Improvements.....	4,917,000	6,277,000
Furnishings and equipment.....	250,000	-----
Smithsonian Institution.....	85,000	40,000
Total.....	5,800,000	6,865,000
Less planning funds appropriated fiscal year 1962.....	-400,000	-400,000
Total estimate.....	5,400,000	6,465,000

The General Services Administration furnished the two estimates given above. The 1963 budget estimate was made in November 1960. Subsequently, studies in drawings by the contract architect and engineer have developed need for additional improvements not contemplated in November 1960. A comparison of the amounts for improvements which the 1963 budget estimate would have allowed and the amounts necessary to meet the needs brought to light by the architect and the engineer's work are as follows:

	Estimate, Nov. 8, 1960 (fiscal year 1963)	Estimate, fiscal year 1964	Difference
Estimated improvement costs:			
Demolition and protection.....	\$150,000	\$307,000	+\$157,000
Windows and stonework.....	100,000	113,000	+13,000
Approach work and landscaping, etc.....	250,000	232,000	-18,000
Elevators.....	221,000	396,000	+175,000
Air conditioning.....	1,113,000	1,149,000	+36,000
Roof and rain-leader system.....	30,000	678,000	+648,000
Interior marble, tile, terrazzo.....	260,000	370,000	+110,000
Items of built-in equipment to be included in construction contract.....	155,000	319,000	+164,000
Other.....	2,266,000	2,266,000	-----
Estimated construction contract.....	4,545,000	5,830,000	+1,285,000
Contingencies.....	347,000	422,000	+75,000
Reservations.....	25,000	25,000	-----
Estimated improvements costs.....	4,917,000	6,277,000	+1,360,000

The differences are explained below:

Demolition and protection increased due to necessity for replacement of roof and work on skylights.

Windows and stonework: It will be necessary to replace the granite steps at the Seventh Street entrance, and also to repair, calk, and paint the windows.

Approach work and landscaping: It will be necessary to replace sidewalks and a number of trees. However, the allowance of \$250,000 in budget request for 1963 would provide a surplus of \$18,000 over the current estimate.

Elevators: It has been necessary to add a dock lift, passenger elevator, and elevator in the kitchen area.

Air conditioning: The slight increase in this item is due to the increase in construction prices at no increase in scope of the work.

Roof: In lieu of repairing the present roof, it will be necessary to replace it. It is proposed to install a Monel metal roof and cover the skylights with gypsum plank. Replacement of present wood framing and rain-leader system will also be necessary.

Interior marble, tile, and terrazzo: The increase in this item is due to replacement of floors with marble, mosaic, and terrazzo.

Items of built-in equipment included in construction contract: The 1963 budget request included an allowance of \$155,000, to which it has been necessary to add the following:

Lockers and bases-----	\$4, 000
Shelving and bookstacks-----	18, 000
Auditorium seats-----	14, 000
Counters and cabinets-----	6, 000
Additional kitchen and cafeteria equipment-----	85, 000
Movie screens and curtain tracks-----	3, 000
Spray booth in varnish room-----	4, 000
Screen racks for paintings-----	30, 000
Total-----	164, 000

Other construction items: The 1963 budget request is sufficient to cover all other items of construction.

Contingencies are increased proportionately to the estimated construction contract.

SMITHSONIAN INSTITUTION

WORK PERFORMED UNDER GRANTS AND CONTRACTS FROM FEDERAL AGENCIES

Grants

There are listed below the agencies and the amounts of grants which the Smithsonian received in 1962 as well as an estimate of the amounts to be received in 1963:

Federal agency	Actual, fiscal year 1962	Estimate, fiscal year 1963
National Aeronautics and Space Administration-----	\$4,610,000	\$4,080,000
National Institutes of Health-----	232,500	253,736
Department of Defense-----	125,000	200,000
National Science Foundation-----	360,113	378,700
Federal Aviation Agency-----	50,000	50,000
Total grants-----	5,377,613	4,962,436

These grants from funds available to Federal agencies enables the Institution to collaborate with such agencies in scientific research including the satellite tracking program, the Science Information Exchange, a study of scientific community in England, Ordovician gastropods, South Asian Microlepidoptera, Phanerogams of Columbia, research on stellar atmospheres, tertiary forests of the Tonosi, a late Pleistocene fauna and possible human associations, and studies of Asian insects.

A statement of the Smithsonian Institution's functions under the grant from the National Aeronautics and Space Administration follows:

THE OPTICAL SATELLITE TRACKING PROGRAM OF THE SMITHSONIAN ASTROPHYSICAL OBSERVATORY

The Smithsonian Astrophysical Observatory at Cambridge, Mass., through its optical satellite tracking program, is involved in four major research areas:

1. To develop and gain experience in observational and computational methods for dealing with artificial satellites and space vehicles.
2. To determine atmospheric densities at very high altitudes and to establish the laws of density variations with altitude, latitude, longitude, daily factors, seasonal factors, and solar activity.
3. To determine the gravitational potential of the earth and its effect on the motions of satellites.
4. To determine geodetically the geometric shape of the earth and to tie together the networks of the various continents to within an order of magnitude better than previous methods made possible.

The data for this research is obtained with the help of the Observatory's 12 Baker-Nunn camera stations and approximately 90 Moonwatch teams.

The Baker-Nunn camera stations are in Argentina, Australia, Curacao, Florida, Hawaii, India, Iran, Japan, New Mexico, Peru, South Africa, and Spain. During the period January through June 30, 1962, Baker-Nunn satellite tracking stations successfully photographed an average of 14 different satellites each month. From January to June 30, 1962, 13,388 successful observations were made by the Baker-Nunn stations, an increase of 82 percent over the same period in the previous year.

Research based on satellite observations is published in Smithsonian Astrophysical Observatory reports and in professional journals. Some of the titles for last fiscal year are: "Irregularities in Atmospheric Densities Deduced From Satellite Observations"; "Tesseral Harmonics of the Gravitational Potential of the Earth as Derived From Satellite Motions"; and "Experience in Precision Optical Tracking of Satellites for Geodesy."

Astronomical studies continued in the flare star program operated in conjunction with the 250-foot diameter radiotelescope at Jodrell Bank in England. The program is maintained to determine the feasibility of nearly simultaneous optical and radio detection of flare stars.

Work will continue in field reduction techniques and replacing current time standards with new high-accuracy, high-reliability timing systems which will make full use of the highly stable reference-signals broadcast by very low frequency radio stations.

The differential orbit improvement (DOI) program incorporated the lunar-solar perturbations on the theory worked out by Dr. Kozai. Because of continued advances in satellite orbit theory and in the accuracy of optical observations, and because almost all problems pertaining to satellite orbits are affected by changes in the DOI, Smithsonian programmers have worked continuously to improve its efficiency.

Contracts

The Smithsonian Institution also performs research for Federal agencies on reimbursable contracts. The agencies for whom this work was performed in 1962 and the amount of reimbursement together with an estimate for 1963 follows:

Federal agency	Actual, fiscal year 1962	Estimate, fiscal year 1963
National Aeronautics and Space Administration.....	\$734,373	\$900,000
Atomic Energy Commission.....	107,189	137,000
Veterans Administration.....	30,250	65,000
Department of Defense.....	278,527	230,801
Total reimbursable contracts.....	1,150,339	1,332,801

This research was primarily in the fields of astrophysics, astronomy, psychology, aeronautics, shark repellents, plant physiology, and marine fauna of the Pacific Ocean.

INSTITUTION ASSETS

MR. KIRWAN. I have one more question: What are the assets of the Smithsonian Institution today?

DR. CARMICHAEL. When the Mona Lisa came they asked M. Malraux how much it was worth and he said France did not insure it because it was priceless. I am afraid I would have to give the same answer. How valuable is the little piece of wood in the desk on which the Declaration of Independence was written? How valuable are the many things that were used by George Washington? We have many things used by all our Presidents, the furniture of Hamilton, and so on. These are the treasures of the American people.

MR. KIRWAN. As you said, they are priceless?

DR. CARMICHAEL. Yes, sir.

Mr. KIRWAN. I read in a magazine article one time that if you lived to be 100 years and if you looked 1 or 2 seconds at everything in the Smithsonian Institution you could not get through it in a lifetime.

Dr. CARMICHAEL. We have approximately 54 million cataloged objects.

Mr. KIRWAN. And I think you told me one time that not counting the priceless things the other assets would be worth over \$1 billion?

Dr. CARMICHAEL. That is true.

Mr. KIRWIN. Mrs. Hansen.

OCEANOGRAPHY

Mrs. HANSEN. I just wondered about your oceanography. Are you planning to pick up the research done by the other departments and coordinate it with yours?

Dr. CARMICHAEL. We are in close contact with the other departments and the plan is to have these materials brought in to a center from other departments and especially from collecting vessels. And we will participate to some extent in some of the collecting expeditions because if we are to preserve the materials we want to be there to be sure they are correctly preserved when they come out of the water. Cells are rather fragile things and it is important they are placed in the proper fixative. We plan to do that in cooperation with the Navy and other agencies.

VISITORS

Mrs. HANSEN. What percentage of your visitors are young people?

Dr. CARMICHAEL. A large proportion of them are young people. We try to keep a record of the number of people and our figures are not estimates, they are actual counts. We try to get an estimate of the young people. It is a large proportion. I like to say, however, that we have as visitors young people of all ages who have inquiring minds and are interested in the historic treasures of America.

Mrs. HANSEN. That is all.

Mr. KIRWAN. Mr. Harrison.

Mr. HARRISON. I have enjoyed the presentation very much. I think you have done a marvelous job and I am very much in sympathy with it.

Dr. CARMICHAEL. Thank you.

Mr. KIRWAN. Mr. Reifel.

Mr. REIFEL. I am continually being excited about my assignment on your committee, Mr. Chairman. I used to think of the Smithsonian Institution as the Bureau of Ethnology, because I am a member of the Rosebud Sioux Tribe and publications of the Bureau of Ethnology were handbooks for us. But coming here in 1935 one of the first things I went to see was the Indian collection. And I am also fascinated by the beehive you have where the bees come in from the outside.

Getting back to matters of interest to a child, my nephew was here, who happens to have a scientific mind, and he was interested in seeing the space capsule. I believe the space capsule is in that corrugated building?

Dr. CARMICHAEL. Yes.

Mr. REIFEL. And after coming 1,500 miles with his mother he could not see it, so he left with tears in his eyes. I hope some day he will come back and see it in this wonderful building.

Dr. CARMICHAEL. On some days in that little building we have tried to allow 40,000 people to see the space capsule in 1 day. There is no building more needed than a new air and space museum.

Mr. KIRWAN. I tell you, Washington has been neglected. When I came to Washington 27 years ago at the foot of the hill down here there were tenement houses and to think this is the Nation's Capital. Now look at the new buildings on every corner. See the progress that is going on. I am glad we are finally undertaking the rehabilitation and improvement program at Smithsonian. It was very badly needed.

We enjoyed your visit, Doctor, and good luck to all of you.

We shall meet again on Monday.

FEBRUARY 18, 1963.

FOREST SERVICE

WITNESSES

E. P. CLIFF, CHIEF, FOREST SERVICE
 C. W. HENDREE, DEPUTY CHIEF, FOREST SERVICE
 V. L. HARPER, DEPUTY CHIEF, FOREST SERVICE
 A. W. GREELEY, DEPUTY CHIEF, FOREST SERVICE
 W. S. SWINGLER, DEPUTY CHIEF, FOREST SERVICE
 M. M. NELSON, DEPUTY CHIEF, FOREST SERVICE
 G. M. JEMISON, ASSOCIATE DEPUTY CHIEF, FOREST SERVICE
 B. H. PAYNE, ASSOCIATE DEPUTY CHIEF, FOREST SERVICE
 G. D. FOX, ASSOCIATE DEPUTY CHIEF, FOREST SERVICE
 N. M. RAHM, ASSOCIATE DEPUTY CHIEF, FOREST SERVICE
 H. B. MACK, BUDGET OFFICER, FOREST SERVICE
 JOHN L. WELLS, ASSISTANT DIRECTOR OF FINANCE, DEPARTMENT
 OF AGRICULTURE

Mr. KIRWAN. The committee will come to order.
 We have with us this morning the Forest Service.

GENERAL STATEMENT

Do you have a statement, Mr. Cliff?

Mr. CLIFF. Mr. Chairman, I have a prepared statement. I would like to put it in the record and just give you a few of the highlights now.

Mr. KIRWAN. Please go ahead.

Mr. CLIFF. Thank you, sir.

(The statement follows:)

STATEMENT OF EDWARD P. CLIFF, CHIEF, FOREST SERVICE

We welcome this opportunity to discuss with you the details of our 1964 budget proposals. However, before we proceed with this discussion, I would like to introduce the members of my immediate staff who will help present our budget to you today. There have been many changes since a year ago, both in the membership of this committee and in our organization. This is my first appearance before you as Chief of the Forest Service and it is the first time several members





